

BELL 505 Model Guide

The BELL 505 is a Bell helicopter that the registry lists as turboshaft-powered. The library row says piston, but the manuals use turbine terms such as Ng and MGT. The flight manual approves five-place seating and day/night VFR in non-icing conditions. The supplied documents give no range, speed or payload figures.

KEY TAKEAWAYS

- Approved for five-place seating, day/night VFR, non-icing conditions only; minimum crew is one pilot in the left seat.
- Engine oil level is a known issue: overfilling the reduction gearbox can cause high oil temperature, high MGT and engine damage.
- Check Garmin G1000H software status (006-B2472-02) and whether the ECU FAIL wiring change in TB 505-20-23 was done.
- Bear Paw kit adds 16.76 lbs and cuts calculated climb rate by 100 fpm.

CERTIFICATION AND OPERATING LIMITS

Certified under Canadian Airworthiness Manual Chapter 527 (Normal category), which is equivalent to FAA Part 27 and EASA CS-27. Basic configuration is approved for five-place seating and land operation, day/night VFR, non-icing. Dual-pilot operation is approved if the pilot in command sits in the left seat. SPLIT-COM mode is prohibited.

ENGINE OIL AND SOFTWARE HISTORY

Information Letter 505-19-06 reports engine oil temperatures above limits shortly after start-up, traced to excess oil in the engine reduction gearbox. TB 505-20-23 introduces Garmin G1000H software 006-B2472-02 and a wiring change to the ECU FAIL message logic, for field-reported ECU FAIL messages. It takes about 8 man-hours.

MODIFICATIONS AND INSPECTIONS TO CHECK

The Bear Paw kit (Alpine Aerotech) adds 16.76 lbs and requires reducing the calculated rate of climb by 100 feet per minute. The Alpine crew headset hanger kit has a 600 hour/12 month detailed inspection, whichever comes first. Verify each fitted kit has its supplement and logbook entry.

PERFORMANCE

Bear Paw Climb Rate Reduction Fpm	100
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WEIGHT & BALANCE

Bear Paw Kit Weight Lbs	16.76
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SAFETY NOTES

- Do not start the helicopter with the engine oil sight glass full; drain to the proper level and stabilize it with dry motoring runs first.
- Follow the STARTER limitations during repeated dry motoring runs; ground power may be needed to avoid depleting the battery.
- Record torque events and any exceeded limit in the helicopter logbook; intentional use of transient limits is prohibited.